CLAIMS

What is claimed is:

1. A computer printer comprising: a housing, having a generally horizontal printed paper outlet; and a printed paper exit tray assembly positioned adjacent to the paper outlet of the housing;

the printed paper exit tray assembly including a generally horizontal exit tray positioned below the paper outlet and a pair of opposed pivotable sheet supports positioned vertically between the paper outlet and the exit tray and extending generally along longitudinal sides of the exit tray, the supports being pivotable from a support position in which an upper support surface of each support is positioned directly below a respective horizontal end portion of the paper outlet to a release position in which the upper support surface of each support is pivoted outwardly away from the respective horizontal end portion of the paper outlet, such that the supports are operative in their support position to support printed sheets emitted from the paper outlet above the exit tray and operative in their release position to drop the printed sheets to the exit tray; and

the printed paper exit tray assembly being collapsible with respect to the housing.

2. The computer printer of claim 1, wherein the exit tray is slidably mounted to a lower surface of the housing and is slidable to a collapsed position wherein the exit tray resides at least partially under the housing.

3. The computer printer of claim 2, wherein the supports are pivotally coupled to the exit tray and are pivotable inwardly beyond the support position to a folded position, wherein the supports are slidable with the exit tray in the collapsed position to reside at least partially under the housing.

4. The computer printer of claim 3, wherein the supports are generally planar wings and the wings are generally parallel to the exit tray in their folded position.

5. The computer printer of claim 4, further comprising: a pair of arms pivotally mounted to the housing, extending out from the housing and each arm having a distal end portion positioned adjacent to an outer surface of a respective wing;

each wing being biased outwardly to abut the respective arm's distal end portion;

each arm's distal end portion being biased inwardly to position the respective wing in the support position; and

each arm's distal end portion being outwardly pivotable by an actuator to allow the respective wing to pivot to the release position.

6. The computer printer of claim 5, wherein:

each wing is pivotally coupled to the exit tray at a lateral pivot point;

each arm is spaced vertically above the exit tray;

each arm includes an inner side surface;

whereby, as the exit tray and attached wings are slid to the collapsed position, the inner side surface of each arm abuts the respective wing and causes the respective wing to pivot to the folded position.

7. The computer printer of claim 6, wherein each actuator includes:

a projection extending upwardly from the respective arm; and,

a cam rotatable to contact the projection and push the projection in a direction that causes the distal end portion of the arm to pivot outwardly.

8. The computer printer of claim 7, wherein each cam is mounted to a single cam shaft running generally perpendicular to the arms.

9. The computer printer of claim 8, further comprising a pair of springs, each spring being coupled between a respective arm and the housing, each biasing the respective arm's distal end portion inwardly.

10. The computer printer of claim 9, further comprising a pair of stops, each stop being coupled to the housing and positioned adjacent to a proximal end portion of a respective arm on an outer side surface of the respective arm, and operative to limit inward travel of the distal end portion of the respective arm against the respective wing so that the respective arm does not pivot the respective wing inwardly beyond the respective wing's support position when the exit tray is not in the collapsed position.

11. The computer printer of claim 5, wherein the inward biasing of each arm is stronger than the outward biasing of each wing.

12. The computer printer of claim 1, wherein the exit tray is pivotably coupled to the housing, whereby the printed paper exit tray assembly collapses with respect to the housing by pivoting at least the exit tray up to a generally vertical orientation adjacent the housing.

13. The computer printer of claim 12, wherein:

each of the supports are actuated by a respective cam carried on a cam shaft;

the cam shaft further includes an actuator projection extending radially therefrom; and

the actuator projection is acted upon by a reciprocating arm extending from the housing, wherein an outward extension of the reciprocating arm contacts and presses against a radially outer portion of the actuator projection, causing the cam shaft and cams to rotate, and, in turn, causing the cams to actuate their respective supports.

14. The computer printer of claim 13, wherein the reciprocating arm is a rack engaged with a pinion coupled to the housing.

15. The computer printer of claim 14, further comprising a pair of stops, respectively stopping the forward and rearward travel of the reciprocating arm at respective actuating and retracted positions, respectively.

16. The computer printer of claim 15, further comprising a clutch operatively coupled between the pinion engaged with the rack and a drive for rotatably driving the pinion.

17. The computer printer of claim 16, wherein the drive for rotatably driving the pinion is a drive gear, and the clutch is a friction clutch coaxially pressed between the pinion and the drive gear.

18. A combination computer printer and active exit-tray support assembly for the computer printer comprising:

a printer housing;

a generally horizontal exit tray slidably coupled to the printer housing and slidable to and away from the printer housing;

a pair of opposed support wings pivotally coupled to the exit tray on a longitudinal edge of each support wing on a pivot axis that runs generally parallel to a horizontal plane of the exit tray and extending generally along opposite longitudinal sides of the exit tray, each support wing being pivotable from a generally vertical printed page support position to a generally outwardly angled printed page release position;

a pair of arms pivotally mounted to the printer housing, on a pivot pin generally perpendicular to the pivot axes of the support wings, the arms extending out from the housing and each arm having a distal end portion abutting an outer side surface of a respective support wing, the wings being biased outwardly against the respective arms;

at least one actuator operative to pivot the distal end portions of the arms outwardly, allowing the wings to bias outwardly to the generally outwardly angled printed page release position, and inwardly again, pivoting the wings back to the generally vertical printed page support position; and

a pair of opposed cam surfaces spaced above the exit tray, each having a leading edge positioned outside of the respective outer side surface of a respective support wing, whereby as the exit tray is slid towards the printer housing, the inwardly tapering cam surfaces contact the respective outer side surfaces of the respective support wings and cause the support wings to pivot inwardly to a folded position.

19. The computer printer of claim 18, wherein each of the pair of opposed cam surfaces is provided on a respective one of the arms.

20. A combination computer printer and active exit-tray support assembly for the computer printer comprising:

a printer housing;

a generally horizontal exit tray coupled to the housing and pivotal between a generally horizontal orientation projecting away from the housing and a generally vertical orientation adjacent the housing;

a pair of opposed support wings pivotally coupled to the exit tray on a longitudinal edge of each support wing on a pivot axis that runs generally parallel to a horizontal plane of the exit tray and extending generally along opposite longitudinal sides of the exit tray, each being pivotable from a generally vertical printed page support position to a generally outwardly angled printed page release position;

each of the support wings actuated by a respective cam carried on a cam shaft;

the cam shaft further includes an actuator projection extending radially therefrom; and the actuator projection is acted upon by a reciprocating arm extending from the housing, wherein an outward extension of the reciprocating arm contacts and presses against a radially outer portion of the actuator projection, causing the cam shaft and cams to rotate, and, in turn, causing the cams to actuate their respective support wings.

21. The computer printer of claim 13, wherein the reciprocating arm is a rack engaged with a pinion coupled to the printer housing.

22. A printer exit tray assembly comprising:

a printed-sheet exit tray attachable to a printer housing, wherein, when the exit tray is attached to the printer housing, the exit tray is movable between a use position and a collapsed position, wherein the exit tray is disposed generally horizontally in the use position, and wherein the exit tray projects horizontally further from the printer housing in the use position than in the collapsed position; and

a pair of opposed sheet supports attached to the exit tray, wherein when the exit tray is in the use position the supports are pivotable, with respect to the exit tray, between a support position for supporting a printed sheet above the exit tray and a release position for releasing the printed sheet to the exit tray